

# End to End Capability

Unmanned Combat  
Air Vehicle - Navy

Broad Area Maritime  
Surveillance UAV



Global Hawk  
Maritime Demonstration

# PMA 263 NAVAL UNMANNED AERIAL VEHICLES Program Overview NIID

TCS - UAV Command & Control



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# Roadmap



- Long-Dwell Standoff ISR UAV
  - First accelerate procurement of a naval mission capable Global Hawk system for experimentation, CONOPS
  - Develop BAMS UAV leveraging BAMS UAV MNS/AoA
- Penetrating Surveillance/SEAD/Strike UAV
  - UCAV-N S&T Demo
  - Program initiation in FY 04
- Tactical Surveillance and Targeting UAV
  - Fund Pioneer OMN to support USMC requirements
  - Complete Firescout E&MD to enable naval UAV CONOPS, TTPs, Training, and to support development of TCS, TCDL and Advanced Laser Designator
  - Support development of Dragon Eye and future tactical UAV's
  - Develop requirements across surface, submarine, and Marine Corps resource sponsors
- Infrastructure
  - Tactical Control System
  - Communications / Bandwidth



# Broad Area Maritime Surveillance (BAMS) UAV



- **Formal Acquisition Program**
- **System Focus**
  - Persistent long range surveillance
  - Global coverage
  - Stand off sensors
- **CONOPS:**
  - Wide Area Surveillance of maritime & land targets
  - Strike support (stand off)
  - ELINT / Limited COMINT
- Comm relay
- **Will develop maritime capable UAV systems for operational deployment (IOC FY09)**
  - CNO Transformational Program
  - Provides CVBG/ARG/Commanders with a persistent ISR capability
  - BAMS UAV will support a spectrum of Fleet missions serving as a distributed ISR node in the overall Naval environment. ISR cuing, strike support, SIGINT, and communications relay are examples of the missions BAMS UAV is expected to accomplish for the Fleet Commander.
  - Addresses existing ISR capabilities gap
  - Open systems architecture to support growth capabilities and technology refresh

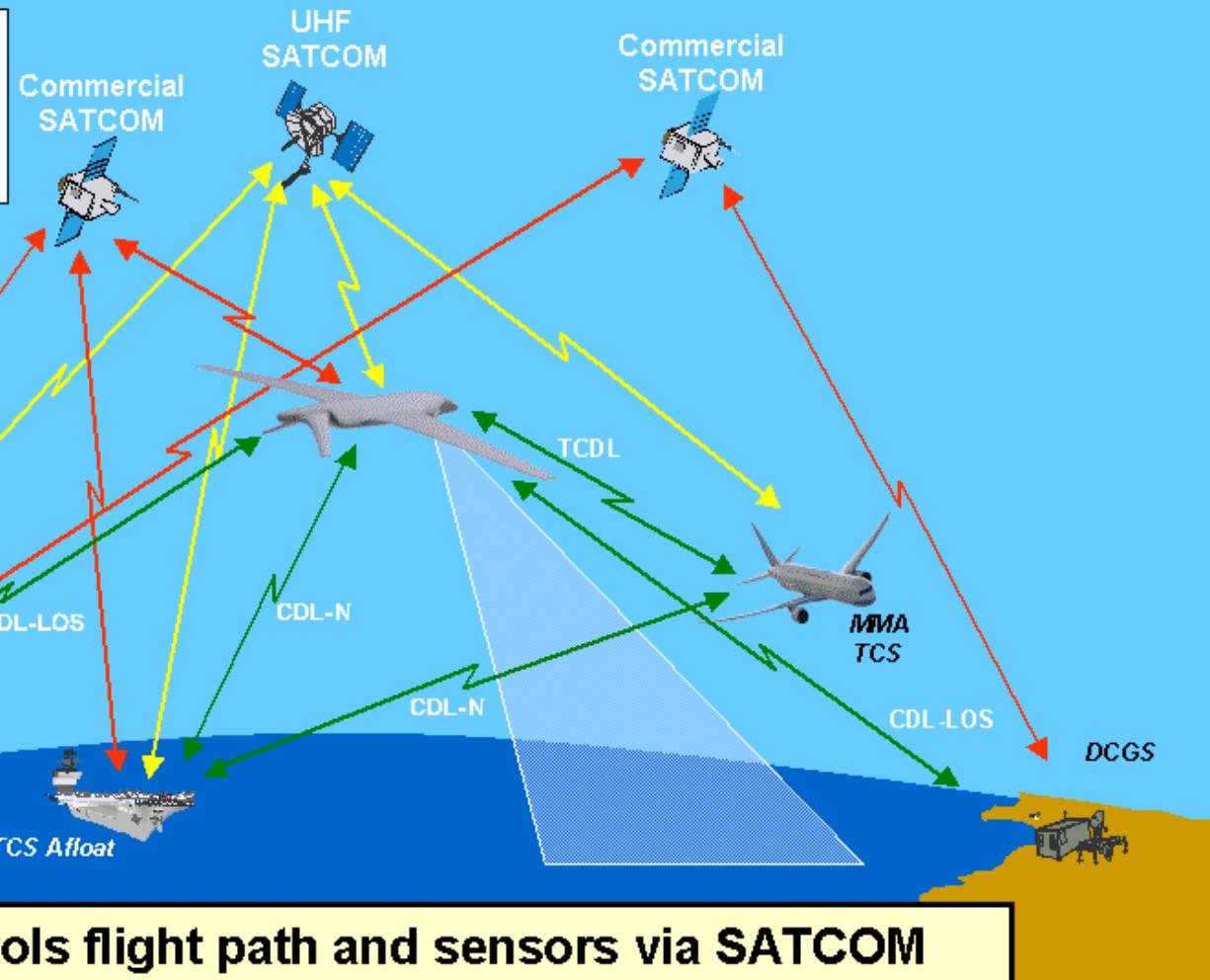




# Air Vehicle and Sensor Control Architecture

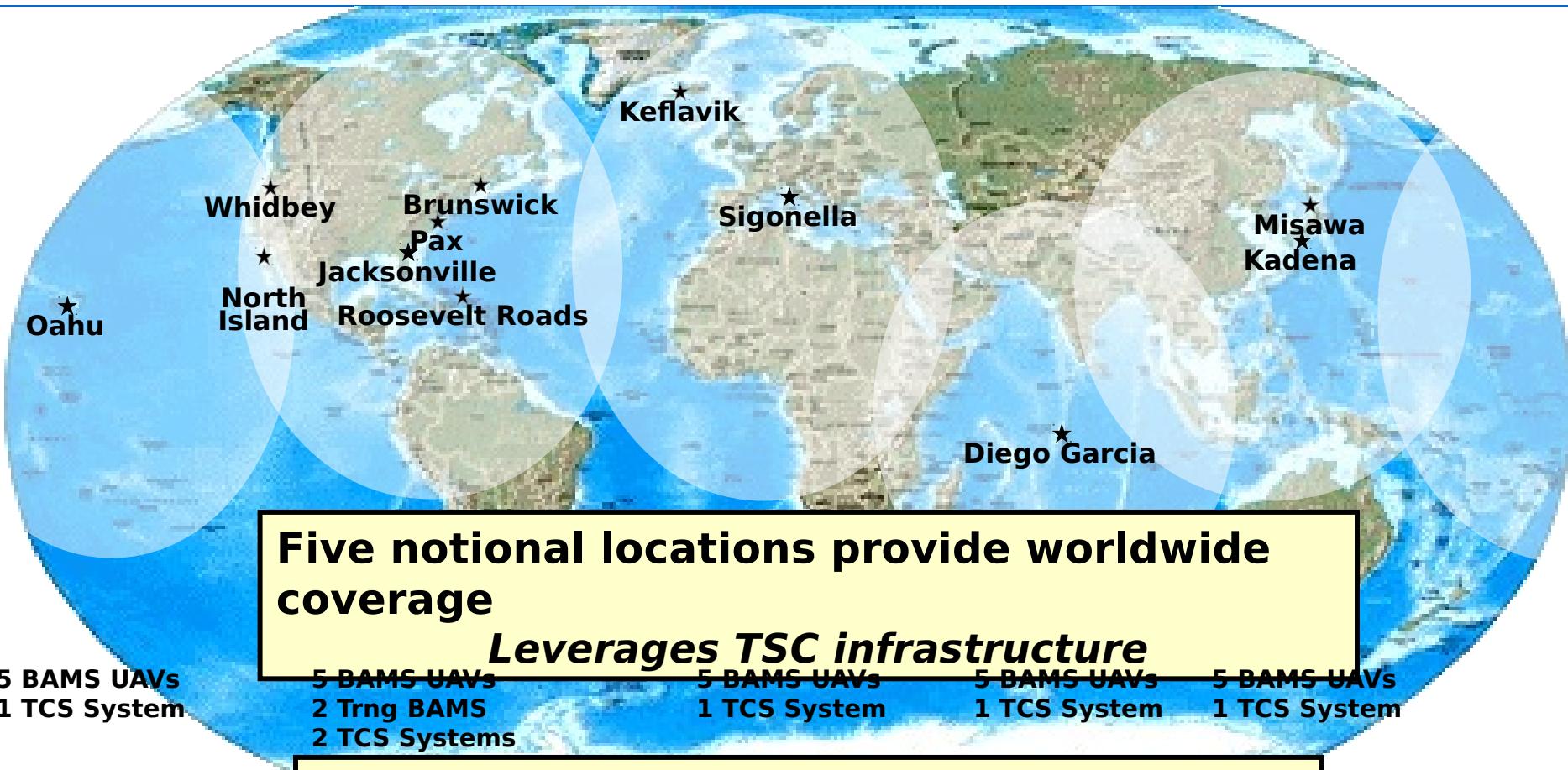


<u>Network</u>	<u>Function</u>
UHF-band SATCOM	C2
Comm SATCOM	C2 & Sensor
X-band CDL (LOS)	C2 & Sensor
CDL & Comm	C2 & Sensor





# Notional Basing & Geographical Coverage



**Additional capability to deploy from CONUS**

**Mobile Operations Control Center (MOCC)**

\* Range rings represent 18 hour ONSTA time (2650nm)



# BAMS UAV

## Air/Afloat/Ground Integration



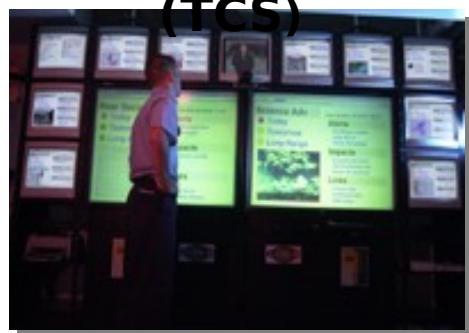
### Naval Fires Network (NFN) / Tactical Control System (TCS)

#### Manned Platforms



**P-3 AIP/ MMA**  
**Control payload, air vehicle**  
**(Level IV)**

**CVN/ARG**  
**Control payload, air vehicle**  
**(Level IV)**  
• Dev E &  
TCDL  
• JSIP-N & JTW  
• BGPHES

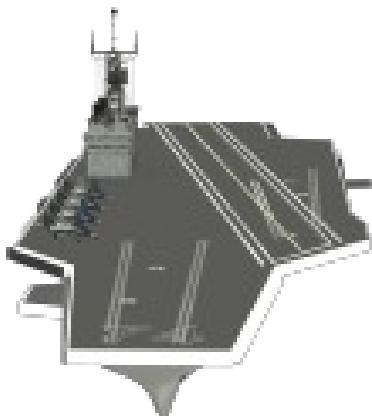


#### Tactical Support Center



**Control payload, air vehicle, launch and recovery (Level V)**

- DII COE Compliant Global Command and Control (GCCS) Information System
- Mission-Cycle Support

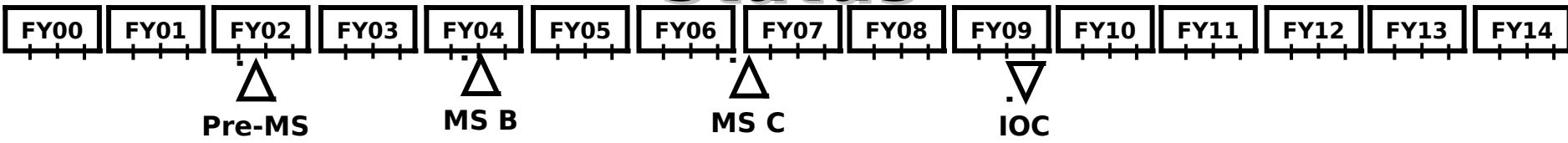




# BAMS UAV



## Acquisition Approach & Status



### *System Design and Development (SDD)*

- Enter Program at MS B
- Pre-Milestone Activities underway include CONOPS Development, Analysis of Alternatives, Operational Requirements Document (ORD) Prep
- Competitive Procurement for BAMS UAV System
- SDD Phase Includes Design, Integration and Testing a BAMS UAV System
- Procure LRIP systems for OPEVAL, Initial fielding



# Proposed Acquisition Approach



## FY02-04 Pre-Milestone Phase

- Develop and approve an Acquisition Strategy for the BAMS UAV system
- Complete AoA
- Develop CONOPS
- Develop the ORD / Capabilities Document for JCS staffing
- Develop C4I Support Plan to address BAMS UAV interoperability requirements

## FY04-07 System Development & Demonstration [SDD] Phase

- Develop detailed system and subsystem designs for the BAMS UAV system
- Build Developmental test systems / Systems Integration Lab
- Conduct integrated team development and integration tests
- Develop / acquire ILS and training systems to support Developmental and initial Operational testing

## FY07-TBD Production & Deployment [P&D] Phase

- Begin Low Rate Initial Production (LRIP) (FY07)
- Complete Operational Evaluation (OPEVAL) (FY09)
- Target Full Rate Production (FRP) decision 2010
- Continue technology refresh in successive Spirals



# BAMS UAV Support Concepts



- BAMS UAV will implement Performance Base Logistics, leveraging on public and private partnering opportunities to increase availability and reduce cost
- BAMS UAV System will be supported by a two level maintenance
  - Organic versus Commercial
- Higher level diagnostics for more rapid maintenance/repair



# BAMS UAV International Goals



*Provide a pathway for BAMS UAV to become the international solution for unmanned maritime surveillance platforms in the 21<sup>st</sup> century*

- Introduce the BAMS UAV solution into the international community
  - Mutual Benefits / Operational Commitments
  - Promote Interoperability
  - Actively seek international participation in BAMS UAV development
- Financial leverage for U.S. and international partners
  - Economies of scale for unit costs during production phase
  - Incentives to “play now”
- Opportunities for industrial participation



# BAMS UAV International Status



*Initiatives under way in support of OSD/IPO multi-lateral MOU concept*

- Means to facilitate dialogue and information exchange with allies
  - PMA-290 FMS cases in place with Australia, includes BAMS UAV
  - Information exchange agreements in place with potential partners: Canada, Germany, Netherlands, and South Korea, in development for Australia, Italy, Spain, and Norway.
- Working with PMA-290 to prepare Summary Statement of Intent (SSIO) for IPO to prepare the overarching framework MOU
  - Goal is to have MOU in place by Milestone B in January 2004
  - RAAF offered option of becoming lead nation
- Encouraging U.S. industry to consider opportunities for offshore industrial participation



# Summary



- BAMS UAV continues to progress towards developing and fielding a high altitude ISR system
  - Proceeding Milestone B and subsequent Contract Award in FY04
  - Actively working with international participation, specifically Australia
  - Coordinating BAMS UAV program activities with MMA



# QUESTIONS



<http://uav.navair.navy.mil>